



**Marija Herceg<sup>1</sup>**  
Sveučilište Sjever  
e-mail: mariherceg@unin.hr  
Phone: + 385 97 672 77 27

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## ANALYSIS OF THE STATE OF AGRICULTURAL ENTREPRENEURIAL ACTIVITY - PRODUCTION OF VARAŽDIN COUNTY

**Summary:** *The Varaždin County is experiencing a decrease in arable agricultural land and an increasing withdrawal from agricultural production, despite favorable conditions for engaging in this activity. Most agricultural subjects are small family farms, with persons over 60 years old predominating among the holders/managers of production. The fragmentation of agricultural land and the reduced number of young farmers further complicate the situation.*

*Positive initiatives aimed at benefiting existing farmers and motivating young people to engage in agricultural production include the provision of grants for growth and development, emphasizing investments in modernization and increasing production capacities, while also significantly encouraging the production of indigenous products. The goal is to stop the decline in the number of agricultural subjects and modernize their production to enable them to compete in the market and contribute to achieving self-sufficiency in agricultural production.*

**Keywords:** *agricultural production; Varaždin County; agricultural land; grants in agriculture*

### 1. Introduction

Varaždin County has been experiencing a trend of decreasing arable agricultural land and an increasing number of residents abandoning agricultural production. Despite favorable conditions for the development of agricultural production, which include good microclimatic conditions and quality soil for growing agricultural cultures, negative trends in agricultural production are becoming more apparent each day, particularly affecting small agricultural producers. (D. Vincek, M. Ernoić; 2014.)

Potential problems in reducing the number of agricultural subjects include the increasing administrative burden on farmers, the continuous rise in the cost of sowing materials and plant protection products, high investment costs for the modernization of agricultural production, and the declining interest of young people in taking over agricultural production from older members.

An additional problem is the fragmentation of agricultural land, alongside the growing dominance of large commercial enterprises in the agricultural sector, which undermines the market position of small agricultural producers and negatively impacts the sale of their products. Although small

farmers are numerically dominant in the Varaždin County area, they do not produce enough to meet market demands. Unlike large producers, they lack access to distribution channels, resulting in reduced market competitiveness and threatening the sustainability of their production.

The aim of this research paper is to analyze the trends in agricultural production over the past decade within Varaždin County, taking into account the structure and number of agricultural producers and processors, changes in trends in crop production and animal husbandry, and highlighting the issues causing the increasing abandonment of agricultural production. The research will utilize sources that represent a combination of quantitative and qualitative methods in order to integrate a broader range of information on issues in agricultural production and to conduct the analysis.

Finally, there will be a review of the positive actions of local and regional government units and the increasing use of grants in agriculture, aimed at increasing production capacities, modernizing, and improving work on agricultural production. Additionally, assumptions for the development of agriculture in Varaždin County will be presented.

<sup>1</sup> Corresponding author

## 2. Analysis of the state and trends of agricultural production and service entrepreneurial business in Varaždin County

According to the provisions of the current Agricultural Law, farmers are considered to be physical or legal persons or groups of physical or legal persons engaged in agricultural activities within the Republic of Croatia (Andrea Ćosić et al. 2020). These encompass the following organizational forms: family farms (Croatian acronym: OPG), self-sufficiency farms (Croatian acronym: SOPG), crafts registered for agricultural production, trading companies (Croatian acronyms: j.d.o.o. (simple limited liability companies), d.o.o. (limited liability companies), d.d.(joint-stock companies), cooperatives, and other legal entities.

The SOPG is a form of registration legally defined in 2018 to enable farmers with fewer agricultural resources (land, animals) who primarily produce for their own needs or the needs of their families to register their activities. Producers whose primary goal is market-oriented production typically choose the form of OPG, craft, or trading company upon registration.

Agricultural production has historically been significantly represented in northern Croatia. Residents owning agricultural land, the equipment and machinery for its cultivation registered family farms (OPG) to gain numerous benefits, including the possibility of free market sales and eligibility for agricultural grants.

The OPG remains the most popular form of registration among small agricultural producers. Unlike other forms of registration, except SOPG, subjects in primary agricultural production registered as OPGs and earning an annual income of less than EUR 10,685 are not required to register as taxpay-

ers and thus are not obliged to pay annual taxes on their agricultural activities. This applies only to primary agricultural production.

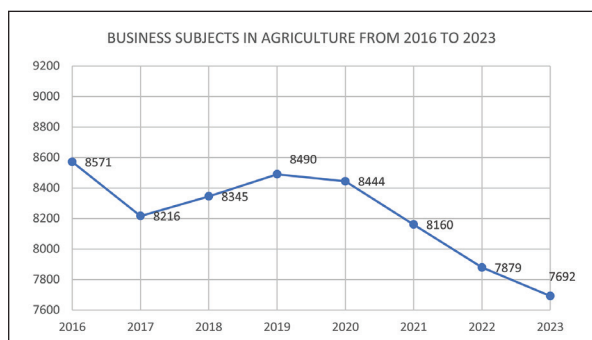
Larger agricultural producers, those generating higher annual sales revenues, are typically registered as crafts or limited liability companies (d.o.o.), with only a few producers in northern Croatia registered as joint-stock companies (d.d.). These are generally companies operating on a cooperative basis with small OPGs and focusing on the production of cow and goat milk, poultry meat, beef, and pork.

According to the Agency for Payments in Agriculture, Fisheries, and Rural Development (Croatian acronym: APPRRR), there are currently 7,692 subjects engaged in agricultural production in Varaždin County. Among these, 4,901 are registered as family farms (OPG), 2,501 as self-sufficiency farms (SOPG), 131 as crafts, 131 as trading companies, 14 as cooperatives, and 14 subjects belong to the group of other legal entities. Considering that Varaždin County has a total population of 159,487, according to the 2021 census, it can be concluded that one in four residents is involved in some form of agricultural production.

For comparison, available data from the APPRRR on the Register of Farmers in 2016 was used. In 2016, a total of 8,571 subjects were working in agriculture in Varaždin County, of which 8,325 were registered as OPG, 101 as trading companies, 121 as crafts, 12 as cooperatives, and 12 as other legal entities.

One of the reasons for the decrease in the number of farms is industrialization, which has led to increased productivity and efficiency but has negatively affected the survival of small farms. Larger producers are increasingly dominating the market by acquiring significant agricultural land and applying modern technologies, thereby capturing a large market share. Although modern technologies like automation, precision agriculture, and digital crop management tools improve productivity and reduce costs, high investment costs pose a challenge for smaller farms lacking adequate financial resources for large-scale investments.

The existence of small producers is further threatened by the growing trend of importing agricultural products at lower prices, which negatively impacts sales prices and reduces demand for domestic products. Local farmers, facing high production costs, are unable to compete price-wise with imported goods, further complicating their market position and jeopardizing the long-term sustainability of their production.



Source: Author's analysis based on data from web page [appprrr.hr](http://appprrr.hr)

Chart 1. Number of subjects in agricultural production of Varaždin County from 2016 to 2023

### 3. Analysis of the State and Trends of Agricultural Production in Varaždin County

The negative impact on agricultural development is primarily due to the fragmentation and small size of agricultural land (Posavi et al., 2008). The average size of agricultural land in Varaždin County is 0.38 hectares, which is less than the national average of 8.41 hectares. A total of 97.45% of farmers have holdings up to 20 hectares.

Of the areas recorded in the national parcel identification system (Croatian acronym: ARKOD), arable land accounts for the largest percentage at 81.05%, followed by meadows at 13.42%, vineyards at 1.95%, and orchards at 1.80%. The rest applies to other types of land.

An additional negative impact is evident from the fact that agricultural production is predominantly carried out by older residents. Currently, 50% of registered farms have a holder/manager over 60 years old, while only 11% are under 40 years old. In comparison with data from 2016, 48% of agricultural holdings had a holder/manager over 60 years old, while 9% were under 40 years old. The increase in the percentage of young farmers can be explained by technological advancements that allow faster and more efficient agricultural production activities and the possibility of obtaining grants and support for improving agricultural production.

Farmers in Varaždin County are mainly engaged in the production of arable crops and vegetables. The county is self-sufficient only in the production of potatoes and cabbage, while grain production meets the needs of the local residents. Self-sufficiency is at the level of 70-80% (Plan razvoja Varaždinske županije za razdoblje od 2021.

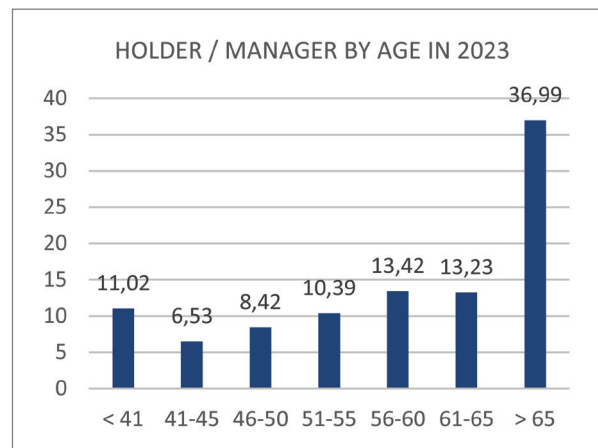
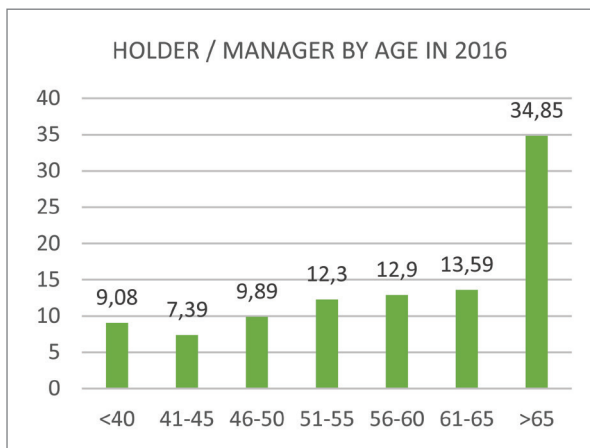
do 2027. godine; 2023.), and there is a significant deficit in the production of milk, dairy products, and meat.

In recent years, there has been a decline in the number of pigs raised and milk production, and a slight increase in the number of farms engaged in organic production has been observed.

### 4. Findings and Discussion on the Results of the Research and Future Trend Assessment

Given the current negative trends at both local and national levels, it is expected that the number of agricultural subjects will decrease in the upcoming years, with larger farms taking over the majority of production. To mitigate these negative impacts, Varaždin County, in collaboration with local self-government units and agricultural associations, is continuously implementing activities to protect local products such as Varaždin cabbage, Varaždin pumpkin seed oil, Varaždin buckwheat, Zagorje turkey, Ludbreg horseradish, Ludbreg rozetlin, etc. The goal is to create unique brands and change consumer habits in perceiving the quality of local agricultural products, directly influencing increased interest in purchasing and consuming healthy local groceries and products. Varaždin County, along with a number of local self-governing units, also promotes investments in agricultural production annually through grants.

Over the past 10 years, significant investments have been made in the development, improvement, and modernization of agricultural production, greatly facilitated by the availability of grants from the European Union and grants from national sources. These investments have enabled farm-



Source: Author's analysis based on data from web page [aprrr.hr](http://aprrr.hr)

Chart 2. Comparison of age-specific holders/managers in 2016 and 2023



Source: web page of Varazdin Country: <https://www.varazdinska-zupanija.hr/>

*Photography 1. Example of branding Varazdin pumpkin seed oil*

ers to advance and modernize their production, which is expected to motivate them to continue working in agriculture.

Considering today's production trends and the fast-paced lifestyle, it is assumed that young farmers will turn to the production of arable crops that are simpler and quicker to maintain, such as oil-seeds and grains. A further decline in the number of farmers engaged in cattle and pig farming is expected due to the significant effort required and the inability to compete on prices. It is also assumed that some farmers will focus on production whose final products have added value, such as the production of alcoholic beverages, natural juices, cheeses, jams, teas, organic cosmetics, or other processed products from their own raw materials, for which there is high market interest.

Overall, agricultural policies, both at the local and national levels, should be directed towards reducing dependency on imported products by encouraging local food production, which would strengthen the economy, create new jobs, and raise the standard of living for residents (D. Vincek, M. Bogović; 2015). It is also important to educate children and young people about the agricultural production process to increase their interest in participating in it. Additionally, it is important to inform members of the community about the health and other benefits of consuming local food through promotional campaigns and the organization of various events focused at promoting local production. Education is also very important for farmers themselves to, independently or with the help of grants, improve the production process and increase competitiveness.

In the upcoming period, it is important to encourage farmers to form associations (cooperatives, producer organizations) due to the multiple benefits they offer: timely access to information, improved production quality, production for pre-defined buyers, reduced costs of sowing materials, and better market placement of products both domestically and internationally. Considering the large number of small farms that operate uneconomically and are not competitive, forming associations could significantly foster their further development and progress, while the assurance of sales could motivate them to increase production capacities and make further investments.

Small farmers will certainly need to consider diversifying their production and partially directing their business towards supplementary activities, such as processing primary agricultural products or providing services within the agricultural sector, alongside their primary agricultural production.

One of the possibilities for improving the business of family farms is connecting agricultural producers with hospitality providers to supply final products to local hotels, holiday homes, restaurants, and other hospitality venues. Additionally, farmers can develop their own hospitality services on the farm by registering rural holiday homes, excursion spots, tasting rooms, or organizing farm tours. The combination of agriculture and hospitality services allows family farms to increase revenue, improve market placement, and make better use of existing resources.

Investing in education and training programs related to agriculture and agricultural product processing is a key aspect of modern farm development. Currently, a high school in Varaždin County (Arboretum Opeka) offers educational programs in agriculture, but the declining interest in these programs points to the need for change. Establishing the Regional Competence Center in Agriculture within this school, located in an attractive area with many planned practical programs, offers hope to revive young people's interest in agricultural careers. Innovative educational programs could enhance employment, self-employment, and encourage young people to remain in rural areas.

To further improve the quality of the agricultural workforce, it is necessary to encourage the development of additional educational programs, especially those focused on transferring knowledge about the application of modern technologies and innovations in agriculture. This would not only improve the business competencies of



future farmers but also create conditions that would motivate young people to stay in rural areas, develop their businesses, and contribute to the sustainable development of the agricultural sector in the region.

Farmers should follow trends with an emphasis on ecology, sustainability, and environmental preservation. Applying the principles of corporate social responsibility could become a key strategy for differentiating farms, particularly in organic production. Market positioning of family farms as socially responsible producers who apply environmentally sustainable practices, such as reducing harmful chemicals, preserving biodiversity, and using renewable energy sources, can add value to their products. This differentiation moves away from mass production, focused mainly on quantity, and shifts the emphasis to quality and authenticity. By applying corporate social responsibility, especially in organic production, family farms can increase their competitiveness and attract new consumers, particularly those with higher purchasing power who value not just the product but also additional sustainability criteria.

## 5. Conclusion

Although there are favorable conditions for agricultural production in Varaždin County, farmers, representatives of the authorities, and other stakeholders in agricultural production continuously face numerous challenges such as fragmentation and reduction of arable land, aging of farmers, lack of self-sufficiency, and more. However, there are numerous initiatives aimed at motivating existing farmers to modernize and improve production, consolidate land, and increase production potential. Measures are also being implemented to encourage farmers to unite for joint market presence and exchange of production experiences, thus promoting farmer involvement in agricultural associations, cooperatives, and agricultural producer organizations. Finally, activities such as the protection and promotion of local

agricultural products aim to create recognizable brands in both domestic and foreign markets, increasing sales revenue and motivating farmers to further expand their production.

Agricultural production at the local level will significantly change in the coming years; larger agricultural producers, in order to survive in the market, will take over more agricultural land and focus more on crop production. It is expected that some small farmers, who have so far been engaged in crop and animal production, will give up on production, some will continue to produce only for their own needs, while others will focus on the production and processing of products with higher market values and higher selling prices. To survive, farmers will need to diversify their activities and, in addition to primary agricultural production, begin processing products or engaging in other additional activities such as providing hospitality services on the farm. To attract new consumers, farmers will increasingly apply the principles of corporate social responsibility, particularly in the segment of organic production. This way, farmers will be able to produce while also strengthening their market potential and reaching a wider range of customers, ultimately increasing demand and generating increased sales revenue.

During the implementation of this research, limitations arose in terms of access to information, with an additional challenge presented by contradictory information found in different types of literature.

For future researchers, it is recommended to conduct further empirical studies that include interviews with farmers and an analysis of the impact of specific policies on local agricultural holdings. Additionally, further analysis of global market trends impact on local agricultural production is advised to provide deeper insights into challenges faced by family farms and identify potential opportunities for their recovery, development, and market survival.



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